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ABSTRACT

This document contains an analysis which identifies the transfer of the Shared Process Evaluation System (SHAPES) to the Significant Learning Event Analysis (S(L)EA), a self-evaluation instrument which offers a systematic flexible approach to access learning, and which is intended to be useful to adult education researchers in examining adult learning patterns. (SHAPES is an instrument used for community development project evaluation.) First, four sources of data on SHAPES are analyzed for assumption, processes, and instrumentation design traits which have a bearing upon S(L)EA. Next, assumptions and specifications for S(L)EA are discussed, followed by the description of a case study in which one of the S(L)EA interpretive frameworks, considered to provide useful and meaningful feedback to a learner using S(L)EA as a reflection medium, is examined. (The interpretive framework examined involved the development and use of a self-designed set of S(L)EA card clusters.) Methodology and findings are presented, with the findings also shown in diagrams and tables. The final two topics cover the evaluation research applications of S(L)EA, and experience with S(L)EA in a program evaluation. (SH)

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The Conceptual and Methodological Development of S(L)EA

Background to S(L)EA

This instrument is based upon the development of another instrument called SHAPES - Shared Process Evaluation System.*[1,2,3]

SHAPES is used for community development project evaluation. A number of assumptions, processes and instrumentation design factors have either been directly adapted from SHAPES or modified to suit the orientation and application of S(L)EA.

An analysis on the following pages identifies the transfer of SHAPES documentation to S(L)EA. This documentation is presented in chronological order. That is, there were four sources of data on SHAPES dating back to November 1974 and each of these (starting with the earliest item) has been analysed for assumptions, processes and instrumentation design traits which have a bearing upon S(L)EA. The analysis of SHAPES documents is a major grounding for S(L)EA.

In addition, however, certain literature which supports and helped in the conceptual development of S(L)EA are (see bibliography for further details) John C. Flannagan's "Measuring Human Performance". This is the only major foundation work on Critical Incident Analysis that the SHAPES investigators (Davie, et al) and myself have found so far.

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1,2,3, *Developed at the Ontario Institute for Studies in Education Toronto, Canada by Dr. Lynn Davie, Richard Cawley, Terry Patterson and Dorothy MacKeracher. Informal papers and a manual on SHAPES are available through the Adult Education Department, OISE.

ANALYSIS OF THE RELATIONSHIP BETWEEN SHAPES AND S(L)EA

On the following pages:

1/ A numbering system is used for each statement quoted from SHAPES documents (e.g. 1.01/01)

- the first digit represents a code found corresponding to a reference in the bibliography;
- the next two digits represent page numbers in that reference;
- the number after the stroke (/) is an indexing of the assumptions, processes and instrumentation design traits.

2/ Three coding columns are as follows:

i. Classification Code Identifies whether the statement is largely being construed as either

A - Assumption

P - Processes

IDT - Instrumentation Design Traits.

ii. Application Code Identifies how A, P and IDT were transferred to S(L)EA

Ø = an optional assumption - this can apply depending upon how S(L)EA is used.

D/A = a direct application of A,P or IDT to S(L)EA.

M = modifications made - see Reference Code for additional information.

N/A = not applicabe to S(L)EA.

iii. Reference Code Only applies where a "M" or Ø appears in the application code column and refers to a section at the end of this analysis.

BACKGROUND

SHAPE'S ASSUMPTIONS, PROCESSES & INSTRUMENT DESIGN TRAITS		Classification Code	Reference Code	Application Code	COMMENTS
1.01/01	SHAPE's is intended to "allow a display of the interaction between groups & individuals."	IDT	See comments	Ø	not the primary intention of S(L)EA
1.01/02	"it organises a variety of activities into a coherent framework".	P	See comments	D.A.	S(L)EA is as much a system as an instrument
1.01/03	Resulting from this display, a person can make judgements about the timing and nature of his interventions in order to facilitate positive outcomes	P	001/1a+b	M	This originally came from Terry Patterson's paper - see Ref. "Temporal & Spacial Relations. 5
1.01/04	"Human activity related to fulfilment of needs can be described.	A	001/5 (a a b)	D.A.	
1.01/05	"it can be broken into phases"...	A	See comments	Ø	Alternative interpretation approach → see Options - Intro. Section
1.01/06	"this activity takes place in a number of fields (consisting of individuals and/or groups) which have specific characteristics"	A	See comments	Ø	The notion "fields" isn't relevant unless S(L)EA is applied to formal evaluation.
1.01/07	These "fields" can and do operate independently.	A	002	DA	
1.01.08	When they do come into contact there is a potential for shared activity which will depend upon the matching activity phase compatability.	A	002 and see comments	Ø	as for 1.01/1 b.

SHAPE'S ASSUMPTIONS, PROCESSES etc.		Classification Code	Reference Code	Application Code	COMMENTS
1.09/09	Critical incident: as a technique it outlines procedures for collecting 'observed' incidents having special significance and meeting systematically defined criteria.	IDT	001/*1b* + see comments	DA	'observed' incidents does not always apply.
1.09/10	"Incident is any obser vable human activity which is sufficiently complete in itself to permit inferences and predictions about the person performing the act.	IDT	001/*1b*	DA	
1.09/11	To be "critical" an incident must occur in a situation where the purpose and intent of the act seems fairly clear to the observer and its consequences are sufficiently definative so that there is little doubt concerning the effects.	IDT		DA	
1.10/12	Phases in the community development model.	IDT	003	M	
1.14/13	Commitment Scale used to assess the amount of commitment felt by the respondent during various critical incidents.	IDT	See comments	M/Ø	The commitment notion applies - it was redeveloped for evaluation purposes to reflect "level of involvement" for a particular event - content analysis establishes if the learner uses 1st, 2nd or 3rd person in describing the event.
2.01/14	The SHAPE's system ... (applies to) "task oriented activities".	A	001/*1b*	M	Modified slightly to refer to task oriented learning.

SHAPE'S ASSUMPTIONS, PROCESSES etc.	Classification Code	Reference Code	Application Code	COMMENTS
2.02/15 "Any analysis or interpretation of the CD activities is adaptable to SHAPES providing it actually reflects reality."	P	001/2	M	For S(L)EA this means "to be demonstrated".
2.02/16 When we assemble critical incidents together on a time sequence, "if necessary specific outcomes or objectives which are achieved can be correlated with points on the time line."	IDT	006	Ø	

Assumptions and Specifications for S(L)EA

001/1a Human learning can be best defined by the learner.

001/1b As learning activity includes such non-observable phenomena as reflecting, meditating, conceptualizing, the only way we can assume to validate the learning is through the learner's self-report of the learning experience. As soon as a researcher assumes to interpret observable behaviour as the only acceptable evidence for learning, he biases and restricts the existence of learning.

001/2 Any framework we put around a person's learning in order to identify it, organize it into conceptual structures and evaluate it is subject to the framework developer's own biases in learning.

001/3 As simple a framework as possible has to be developed in order to tap into and then track learning activity. The tracking and analyzing of "learner-percieved" learning-activity should be:

001/4a Accounted for in objective or factual-information-format, followed by qualitative analysis of the activity;

001/4b Applied to only those activities indicated by the learner, as being significant events in their learning;

001/4c Convertible to sequential and/or learning pattern (style) interpretations.

Need fulfilment is a global, idealized phrase that is liable to vary in terms of:

001/5a How and when needs were identified - some lead to the strongest task orientations or objectives at the outset of a learning endeavour; other needs emerge and take priority during a learning endeavour. Some people just allow needs and, in turn, objectives to emerge, others may work with both initial and emergent objectives;

001/5b Fulfilment may turn out to be different in terms of standards of performance, pride, creativity - before, during and after a learning endeavour.

001/6 Until brain waves and chemical processes are decoded into specific human thought patterns and actions, we can be totally blind empirically to a multitidue of learning activities. We can only, I repeat, only defend the existence of learning through the perceptions of the learner.

001/7 Significant Learning. There are problems of definition and, in turn, validation in establishing the legitimacy of a "significant event". One could argue that by definition, a learning event is "significant" when the learner percieves it to be significant.*

The factual circumstances identified by learners as describing a significant event and the qualitative data about the event brought about by the Q sort component of S(L)EA can be analysed. What is ironic, in a sense, is that S(L)EA is an instrument which is continuously applied to "validate" significant learning.

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*This has a Lewis Carrol, "Alice in Wonderland" tautology to it. "Words mean what I want them to mean."

The Adequacy of S(L)EA to Account for Significant Learning Events

A set of criteria is required here to enable judgements to be made. The events described in S(L)EA log sheets:-

001/8a Are sufficiently detailed so as to account for at least 3 of the following: specific time, date, place, other people involved, activity occurring at the time; description of the outcome or results of the event; an indication of what the event either "led from" or was "leading to".

001/8b The events described and qualified by the Q sort are verifiable through either independent observations or an alternative assessment instrument.

Interpretive Option #1

Specifications and Assumptions Applying to "Phase" Definitions

002/1 There are clusters of behavioural and attitudinal indicators (statements or phrases) which represent either the progress or pattern of a person's learning need fulfilment.

002/2 The term "progress" applies, if the clusters fall into a linear sequence.

002/3 This sequence of clusters as described in SHAPES is called "phases" and can be cyclical; each phase may occur over a number of significant events.

002/4 A "pattern" of need fulfilment applies where the learner opts for Interpretive Mode #II and, accordingly, establishes his own clusters, labels and arranges them in a pattern which represents that individual's learning "mosaic".

002/5 In every instance, a cluster would have to be tested for mutual exclusivity and the consistency of relationships between clusters.

What Interpretive Frameworks Provide Useful and Meaningful Feedback to a Learner Using S(L)EA as a Reflection Medium?

A full scale study of the Interpretive Option #I**a is not feasible at this stage.**b Suffice to say, the use of the six phase analysis was applied with SHAPES,[1,2,3] the Trainer Development Program Evaluation*[4] and my Practicum experience.[6] In each instance, the data generated supported the occurrence of each phase. This is stated with some guardedness because the Q sort items identifying each phase are still subject to further development and testing for validity as mutually exclusive or discrete indicators.**b

A short research assignment was carried out to determine the usefulness of the card sort items and clusters generated for the Interpretive Option #II. This will reported in the section following.

The Interpretive Option #III (discovery-oriented) has not been fully investigated.

**a Described in the introduction of this report.

**b Such a study is the very focus of a thesis that I am currently working on.

**[4] Altshuler, Douey and Friedman.

INITIAL INTENT OF THE INVESTIGATION

ENQUIRY INTO S(L)EA'S SECOND OPTIONAL INTERPRETIVE MODE** - DEVELOPING AND USING A SELF-DESIGNED SET OF S(L)EA CARD CLUSTERS

The card sort items used with S(L)EA were being examined for meaningfulness and usefulness. If any interpretive option is valid for S(L)EA, it must first be tested in terms of whether the user (learner) can understand and identify with the terms used in the instrument. "Usefulness" of the card sort items has a direct bearing on the reliability of S(L)EA. If learners cannot work with the sort cards in reflecting upon or evaluating a series of learning experiences, then S(L)EA's reliability as a measure of significant events is bound to suffer. The major indice of "meaningfulness" with this enquiry is the number of existing Q sort cards that a sample of respondents accept. The major indice of "usefulness" is the respondent's application of the Q sort cards in creating card clusters and labels. The clusters then become the basic framework for using Interpretive Option #II. The following is a case study rather than a fully fledged field survey. No good doing anything until it has been pilot tested!

**Described in the Introduction Section of this report.

ENQUIRY METHOD

A small sample of Adult Education graduate students,** graduates and practitioners, were asked to sort the S(L)EA Q sort cards in two different ways:

Sort I

Separating the cards into two piles on a worksheet. Pile #1 would comprise only those cards which are

a) readily understandable - both the following conditions have to apply:

i) the words make sense,

ii) the sentences or phrases are readily comprehended,

b) meaningful enough that used as items for reflecting upon many different learning situations, these cards would restrict the reflection process if they were left out.

Pile #2 comprised cards rejected after considering both a) and b). The components and guidelines to S(L)EA were explained to everyone participating in this pilot study. In particular, respondents were asked tc keep in mind that these cards would be

a) used repeatedly in reviewing learning experiences, and

b) any cards which were not relevant for a particular event would be eliminated.

Cards placed in Pile #2 were recorded (using the card # codes) on a separate sheet of paper and set aside.

**As a pilot test goup, this seemed appropriate before tapping the general population. I'm assuming that if these folks could not find meaning and use in S(L)EA, people outside the field would not; it was also anticipated that this group could articulate any major technical flaws in the S(L)EA system and respond as "professional" learners.

Sort II

Now, there is another set of guidelines and worksheets. Using the cards remaining in Pile #1, respondents were asked to again sort the cards but this time any number of piles could be created. Respondents were at liberty to use more or less than the seven boxes on the work sheet. The main objective in carrying out the sort, this time, was for the learner to establish her/his own clustering of cards according to any common meaning that the card statements represent. After this sort was completed, the respondents were asked to label the clusters and record the card code numbers applying to this label.

Respondents were also invited to write up their own card items (on blank cards provided), as they were sorting the existing cards into clusters.

The researcher checked with every respondent who used only the seven boxes, if they felt obliged to sort only into seven piles.

A check was made on the total number of cards respondents were prepared to use regularly - this time including the items generated by the learners themselves and allowing for any further decision arising during the second sorting, to reject additional card items.

Research Findings on Interpretive Option #II (see Table #I, page 14)

Note #1. With even a small sample of people, it was sufficient to identify patterns and trends in the use of Q sort cards. Currently there are 49 sort cards, 4 of which are parallel or synonymous statements for testing acquiescence.

Note #2. 21 Different cards were rejected. There were only 2 respondents who coincided for 4 of these 21 items. Conceivably the frequencies could dramatically change and show out a far more revealing pattern with a larger sample.

Note #3. There was a broad range of responses to adding new "customized" cards. Some learners will be quite satisfied with what is already in the deck as illustrated by respondent d). It will probably be important to know in a follow-up study, if respondents felt obliged to replace the cards that they had rejected as contrasted with adding cards which reflected some missing reflective statements that the learner wanted to use. Both conditions are illustrated in just these few results; for example, respondent e) had no concern to replace the 15 cards he rejected.** Respondent c), on the other hand, seemed to make new cards that said much the same thing as the ones she rejected. When interviewed she acknowledged this and said she had worded them in a way she could accept it. For instance, she rejected #3 card (it felt like click! or uh huh! now I know what I want to do) and replaced it with her own card which reads "suddenly I knew what I wanted to do."

Note #4. In an interview held after the card sorts all of the respondents acknowledged that they didn't feel their choice was forced in terms of using only the seven boxes provided. As it turned out two respondents chose to use less boxes.

**His pattern of rejection was also different to other respondents who did their card eliminations only in the 1st sort. In this case, respondent e) dropped 8 cards in the 1st sort and 7 in the 2nd.

The cluster headings and card frequencies for each cluster turned up further interesting facets of the S(L)EA card sort. The cards appear to have been useful to the respondents because they all worked with them. Here we have a sample of what might be adequately labelled "Professional Learners". One thing is for sure . . . all of them having had grounding in Adult Education principles, practices and corresponding terminology, seemed to avoid using terms (or a sequence of concepts) like "needs analysis", program planning, program implementation or evaluation. However, there may be some more subtle jargon patterns which, by getting from each respondent their favoured readings, theoretical biases, academic orientations, etc. then using a Content Analysis approach[8], the conceptual "sets" may be decipherable.

An emergent and seemingly exciting finding is the "patterning" of clusters. If the clusters for each person is plotted then we come up with the following two findings as diagrammed (see page 15b)

Table 1

Acceptance, Rejection, Innovation of Sort Cards

See Findings		Respondents: a)	b)	c)	d)	e)	COMMENTS
Note #1:	No. of cards accepted by each respondent.	42	43	43	50	33	Range 33 - 50 Average = 43
Note #2:	No. of cards rejected by each respondent.	3	5	10	1	15	Range 1 - 15
Note #3:	No. of cards created by each respondent.	1	4	4	0	1	
Note #4:	No. of clusters generated	7	7	7	5*	5	*The placing of 1 card as a "cluster" was not included.

[8] Holsti - Content Analysis.

SUMMARY OF PILOT STUDY FINDINGS

Table #2 - Cluster Names and Card Frequencies (cf)

Cluster #s ↓ Respondents

	a	b	c	d	e
1	"Contact or Con-nnection betw-een me & the learning episode" cf=6	"Initiation Getting down to it" cf=3	"A struggle between me and myself" cf=6	"Feedback" cf=7	"At the beginning" cf=4
2	"Confusion-Question-Introspection" cf=4	"Indecision Suspending judgement" cf=4	"Negotiation between myself and other" cf=6	"Skills Development" cf=6	"Somewhat into the process" cf=7
3	"Relaxation Insight" cf=3	"Sorting Establishing the approach. cf=3	"Insight" cf=6	"Catalytic event-passive in nature" cf=19	"I'm starting to get some of it sorted out" cf=7
4	"Really connect Take hold" cf=3	"Focus on contents" cf=6	"Efficient exploration" cf=8	"Catalytic event-aggressive in nature" cf=12	"At the end of the training but still with the Big 'Day' to Come" cf=7
5	"Insight to action Clarify operational plan" cf=8	"Focus on self" cf=10	"Getting into it" cf=5	"Reflection" cf=5	"All in all " cf=8
6	"Experience Implement Immersion" cf=11	"Focus on Others" cf=6	"Concrete creativity" cf=7	"other person focus)" cf=1	
7	"Reaction Digestion Reflection" cf=7	" Conclusion What came of it all" cf=11	"Avoidung the not so obvious or meeting myself " cf=5		

Diagram #1 Individual Patterning of Card Clusters (using Option II)

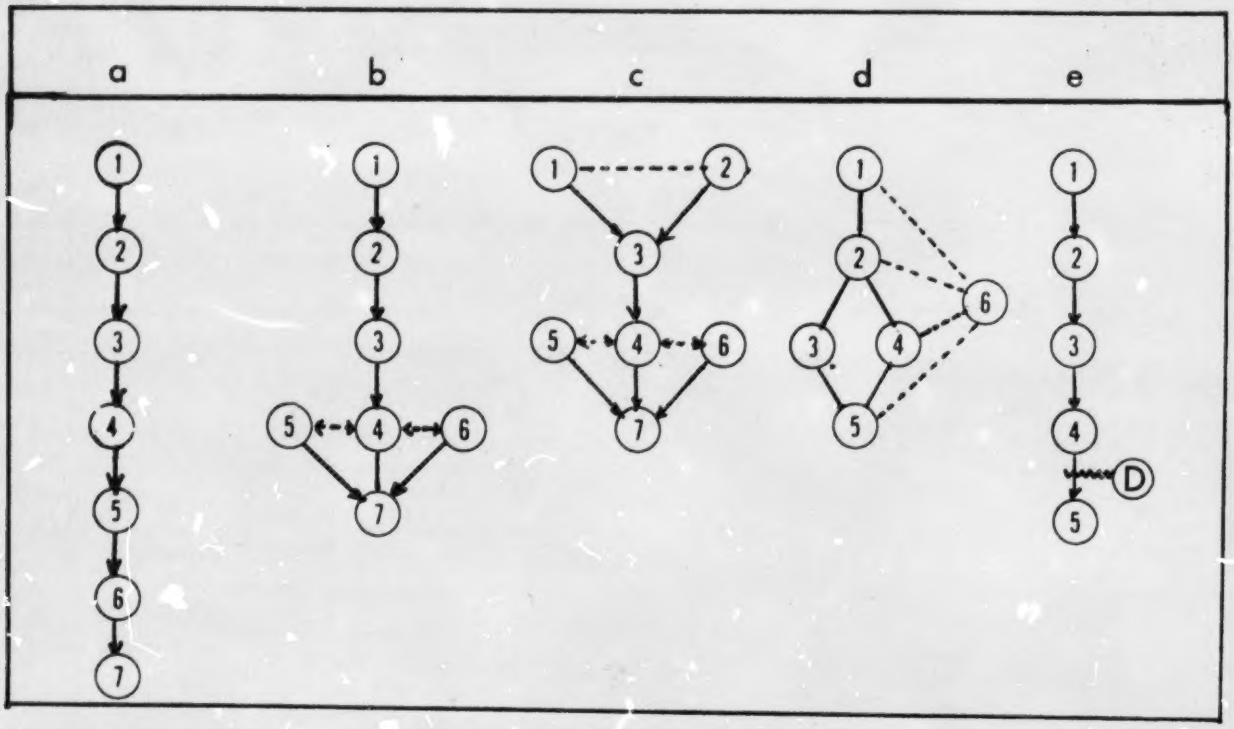


Diagram #2 Option II Clusters Compared with Option I Framework

Interpretive Option #1 Framework (Learning Phases)	Option #II - Self Designed Clusters Respondents				
	a	b	c	d	e
Encountering Interest/ Problems	1	1	1		1
	2	2	2		
Identifying Needs	3		3		2
Objective Setting	4				
Planning	5	3		2	3
Implementing	6	5 4 6	4 5 6	3 4	4
Reviewing / Replanning	7	7	7	5	5
(Non-sequential Dimensions)					
Emergent					
Interpersonal		6	2	6	
Self-directed	2	5	1	1	

Diagram #1

Similar to chromosome patterning, this might be one major way of examining learning style. The diversity of cluster patterns was not anticipated, accordingly, the missing research step would be to have asked the respondents to place their cluster headings onto blank cards and then have them assemble the cards in a pattern which represents the relationship of clusters. The above diagram is an attempt at interpreting the relationship of cluster headings. There are some more easily identifiable connections of the card cluster labels provided by respondents, for example:

Respondent a)'s cluster headings seemed pretty straightforward as a linear progression.

Respondent b)'s forking at (3) leading to (4), (5) & (6) on an equal level, lends itself through the common term "focus". I am assuming clusters (4), (5) and (6) are happening either simultaneously or alternately and not sequentially. This junction of (4), (5), (6) all join with (7) as a logical outcome for all three dimensions. A similar assumption was made for Respondent c) but this may be a relatively faulty phase assembly, not so much for clusters (1), (2) & (3) as it would for clusters (4), (5) & (6).

Respondent d) seems to have set up a phase sequence with branching at (3) and (4) becoming alternative operational "modes" rather than phases. In addition, the somewhat disconnected looking (6) cluster (that is the"other person focus") suggests the respondent identified a Nonsequential Cluster. This means that we predict the occurrence of any card items belonging to that cluster to appear at any time during the learning sequence.

Respondent e), like a), has an easily decipherable linear sequence but oddly enough the respondent seems to miss a cluster heading for what he refers to as the "BIG DAY". (Broken circle (D), has been included to suggest where this phase might appear.) Because the data was assembled, analysed and reflected upon well after the respondent's card sort, it was not possible to check into the need for a "re-sort" or establish that the omission of (D) was intentional.

Diagram #2

Comparison of the respondents' cluster labels with the Interpretive Option #1 (Learning Phases Model), shows that all respondents identified one cluster which is labelled with words that match a "review-cum-reflection" period. Comparable respondent labels at the upper end of the learning phase sequence are less discernable. In at least 3 instances a combining of the Option #1 first and second phases seems to be occurring (encountering interest(s)/problem(s)). Two respondents clearly indicated a planning phase ((5) for Respondent a) and (3) for Respondent b)).

All respondents identified an "action" or implementation phase. Comparison of Option #I Labels with respondents' Labels is an important extension of what was first pursued as the area of inquiry. If Option I has any merits, it must be because learners can approximate the relationship between the cards that they put into clusters when using Option #II. Those people, incidently, identified the interpersonal cluster accurately and two created

clusters that approximate the "self-directed" dimension used in Option #1.

The final test to this entire exercise is finding out if the learners can consistently realise their clusters and the coinciding patterns through the learning experiences they have. (S(L)EA Card Sort Data).

The Evaluation Research Applications of S(L)EA

Program Evaluation conventionally traces the outcomes of learning objectives, examines how well instructional components (materials, audio-visual aids, instructors, etc.) facilitate the attainment of the objectives and attitudinal facets such as participant satisfaction with the program (or sub-components of it), meeting learner expectations, follow-up needs of participants, etc. Apart from the attitudinal measurement (expectations, needs, etc.) S(L)EA can derive data for the other aspects of Program Development. However, this occurs in very different and searching ways. To start with, learning objectives can be appraised through S(L)EA in terms of a) how well they were based upon the needs identified, b) how they are linked to planning, c) how much commitment, follow-through and review the learner had, and d) finally, where other objectives emerged which outcompeted or led to the dropping of original objectives. Whatever instructional components had a significant role to play in facilitating these learning objectives are not obtrusively tested through using S(L)EA. That is, no part of this instrument asks the learner what he/she thinks of the instructor, or say the programmed instruction materials, film or group discussion. If any such phenomena impacted upon the individual, then they would be relayed as part of a significant learning event.

S(L)EA is best applied to evaluating programs which have a high level of learner participation, including the needs identification, objective setting and planning phases of program development. Involvement in the entire evaluation process is also an obvious requirement when using S(L)EA.

Experience with S(L)EA in a Program Evaluation

In the appendix to this paper there are some extracts from a Program Evaluation Report. This assignment used S(L)EA to make a number of different interpretations about the program (Trainer Development Workshop) that was evaluated. Of important note here (in summary) is that the criteria of a "significant event" (see 001/08 a,b,c, above) were largely met by the 114 S(L)EA log sheets turned in by 15 respondents:

- All of the events described on the log sheets, met at least 3 of the criteria set out in 001/8a above, with the highest frequency of qualifying factors being 'time', 'activity' occurring at the time and outcome or result. The latter factor was subject to value statements as much as objective or factual statements.
- 87.7% of the S(L)EA records qualify as Smallest Meaningful Units (001/8c).

A spot check using the terms of reference suggested in 001/8b was carried out with a few of the workshop participants via telephone interviews; the S(L)EA log sheets handed in by workshop resource people was cross-validated through indepth interviews and program documentation assembled by the resource people (see Exhibits of pages 11 and 12 of the Trainer Development Workshop Evaluation Report in the Appendix).

C. METHODOLOGY - DATA COLLECTION

a) Individual Level - Performance and Process

Data on the individual learner level was collected from four major sources:

1) Participants in the Trainer Development Workshop completed a pre-course self-diagnosis form aksing them to identify 5-10 priorities to be dealt with on the workshop. This form ([redacted], developed by Dianne Abbey Livingston and Bob Wiele, contained 132 trainer competencies divided into eleven categories. Participants were asked to rate themselves in terms of their competency (low, average, and high) and then to establish a priority for their own learning needs.
The priorities set by participants were then used by the evaluators to establish what the individual's learning objectives were for Phase I.

2) Further data on individual learner objectives, were collected from the learning contracts developed by each participant for his or her own learning in Phase II. Each contract contained the individual's objectives for this phase along with a statement of an action plan for meeting these objectives.

3) An attempt was made to assess each participant's significant learning events from the program, at the same time avoiding the problems inherent in asking people to directly link their learning objectives to their learning outcomes. It was felt that a questionnaire or other instrument that asked participants to be accountable for what they set as priorities and goals would become a 'self-fulfilling prophesy' of objective achievement.
Also, we as evaluators were concerned to find out if the program was successful with or without learner objectives and to allow for emergent or unintended

outcomes in keeping with the design of the workshop. It became an almost impossible task to measure the degree of achievement for each individual learning objective. This was for two reasons at least - the first being the mere quantity of objectives, and the second being that most were not stated in measurable terms.

Accordingly, we adapted from the Shared Process Evaluation System (1974 - Dr. L. Davie et al. - see Bibliography) an instrument which we called Significant (Learning) Event Analysis (S(L)EA). Basically, the instrument provides data on what a participant perceives to be his or her most significant learning events during the course of the workshop. The instrument is fully explained by the kit that was made up and sent to each workshop participant (See Appendix E).

4) Finally, data was also collected on individual learners from the post Phase I evaluation form developed by the resource people (See Appendix F).

b) Program Level - Performance and Process

The essential purpose here was to gather data on the program goals and the program events. Five major sources were utilized:

1) An open-ended interview was conducted with each of the workshop resource people. An attempt was made to focus on
   - their perception of the program objectives and the program's rationale;
   - their perception of the actual program events;
   - any surprising or unexpected events and/or outcomes;
   - any judgements they had made about the program's performance or process;

   (See Appendix G for the interview guide).

2) Data was gathered on program objectives and events from a variety of paper materials, i.e., workshop advertisement, Bureau publications, handout materials, etc.

3) Each program resource person also completed the Significant (Learning) Event Analysis instrument. They were asked to identify what they saw as critical events in the program. Thus, they completed the instrument from a different perspective than the course participants.

4) Also, data from the S(L)EA's, completed by participants, was used to make some judgements about the accomplishment of the program objectives and about the relative significance of various components of the program.

5) Finally, data was also collected on the program from the post Phase I evaluation, developed and administered by the resource people.

c) Program Level - Efficiency

The primary objective of this analysis was to compare inputs into the program - the relative amount of time devoted to each of the events in Phase I; aggregate expenditures for Phases I and II - with the outputs - significant learnings. We were trying to discover the most effective input of resources relative to the amount and variety of learnings as they occurred in the Trainer Development Workshop.

The secondary objective was to analyze the funding procedures for the program and to investigate alternate ways of achieving similar results. This objective suggested an approach that would allow us to find out whether a representative control group of qualified Trainer Development Workshop applicants who did not participate in the program, were able to find alternate ways of meeting their original learning objectives. These alternate methods

would then be compared to those employed by the Trainer Development Workshop. A questionnaire was sent to ten eligible applicants.

Funding procedures were analyzed separately under 'Program Costing', including incomes and expenditures for the Trainer Development Workshop.

D) METHODOLOGY - DATA ANALYSIS

Taking into account the conceptual background in Section A, the concerns expressed in Section B and the research instruments available to us, our plans for analysing the data emerged as follows:

(i) All objectives (at both Individual and Program levels for both Phases I and II) were rated, with reliability checking by at least one other evaluation team member. The rating was in two categories, "measurable" or "non-measurable". An objective was measurable when its formulation was:

a) specific or relating to only one variable;

b) describing terminal behaviour characteristics;

c) including standards of attainment (such as time limits);

d) discreet in terms of fitting into either the cognitive or affective domains (psychomotor skills - not applicable).

Any combination of <u>at least</u> two of these criteria were considered acceptable. Table 1 presents these results.

(ii) Each participant's Significant (Learning) Event Analysis (average of 8 per participant) was rated (again, with reliability checking by at least one other evaluation team member) as follows:

a) Either a "Global" recall of a significant event or a "Smallest Meaningful Unit" (S.M.U.). .M.U. was applied where the description of the event pertained to half a day (or three hours) or less duration, and

b) Level of involvement in three categories, as follows:

<u>First Person</u> - where the respondent recalled an event where he/she was acting in a trainer role, making a self-initiated or 'proactive' intervention or expressing a trainer competency;

Second Person - recall of an event where the respondent's main role was a reactive one (e.g., reflections of some learning experience - lecture, group discussion, learning materials, etc.)
Third Person - recall of an event where the respondent was acting as an observer of other people's behaviour (without making either an intervention or being in any way a recipient of whatever the observed parties were doing); this event was usually described in highly judgemental or evaluative terms.

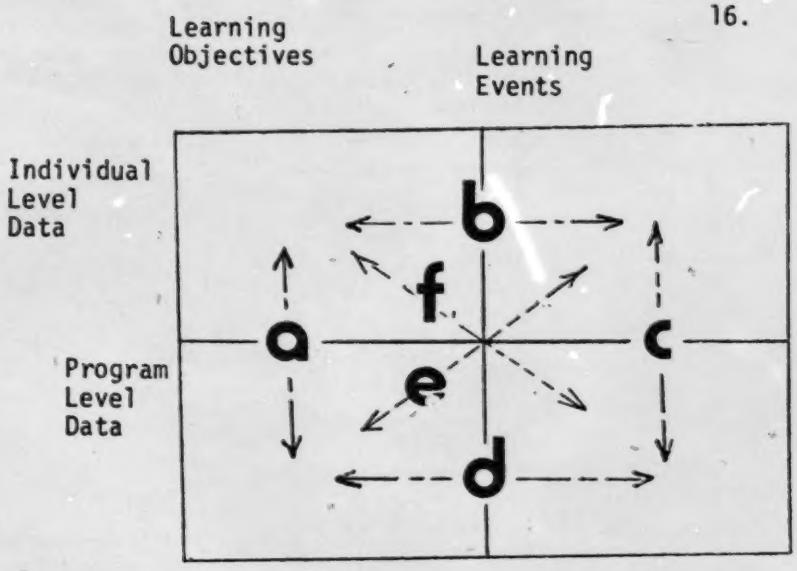
Refer to Table 1 for the results of both ratings in a) and b) above.

(iii) All of the individual's learning objectives and significant learning events were rated (and reliability tested by at least one other evaluator) to be either Role orientated (R.O.) or Personal Orientated (P.O.). Role orientation applied to events and objectives relating to a trainer competency, expression or practice of some trainer skill, interventions or even reflection upon theory or observed data (e.g., andragogy group dynamics, etc.). Personal orientation pertained to objectives or events about either intra or inter personal matters, which had no bearing on the person's professional development as a trainer (but was significant to that individual in terms of personal growth). Results of this analysis are in Table 1.

(iv) A number of comparisons were made with the data. Figure 1 summarizes these comparisons.

Figure 1. Comparisons made with data

16.



Notes: (a) to what extent do individual objectives match program objectives? (Table 3)

(b) how many learning objectives relate to significant learning events (Table 2a) and, of those objectives that match, how many significant learning events relate to them, that is, were intended outcomes? (Table 2b)

(c) what bearing do the significant learning events have on the actual program events? (Table 5a)

(d) how do program objectives relate to actua. program events? (Table 5b)

(e) what bearing do program objectives have upon the individual's significant learning events? (Table 4)

(f) how do the individual's learning objectives compare with actual program events? (Comparison not made)

(v) Efficiency of the Workshop (Phases I and II), that is, the cost of the program in relation to outcomes or cost per significant learning event and per learner (Tables 6a and 6b, 7 and 8).

RESULTS AND DISCUSSION

Individual Level (Performance and Process)

TABLE # 1 - Classification of the learners' objectives and the learner's S(L)EAs for Phases I and II.

		OBJS.		S(L)EA				
		Ph I	PhII	Pre Ph I	Ph I	PhII	TOT. OBJS.	TOT. S(L)EA
Summary Data	Totals	182	129	9	45	60	311	114
	N =	13	15	15	15	15	—	—
	Average/ learner	14	8.6	0.6	3.0	4.0	—	—
	Range	4-36	2-34	1-2	1-9	1-12	—	—
Rating of the Event	Global	N/A	N/A	3	5	6	—	12.3%
	S.M.U.	N/A	N/A	6	40	54	—	87.7%
Rating of objectives	Measurable	63	31	N/A	N/A	N/A	30.2%	—
	Non-Measurable	119	98	N/A	N/A	N/A	69.8%	—
Rating of Level of Involvement	1st Person	N/A	N/A		58		—	52%
	2nd Person	N/A	N/A		35		—	31%
	3rd Person	N/A	N/A		19		—	17%
Rating of Learning Orientation	R.O.	154	112	9	33	44	85.5%	75.4%
	P.O.	128	17	—	12	16	14.5%	24.6%

LEGEND: OBJS = Objectives ; S(L)EA = Significant(Learning) Event Analysis ; N = Number of participants; Ph I or II = Phases I and II of the Trainer Development Workshop; S.M.U. = Smallest Meaningful Unit(3 hours or less); R.O. = Role Orientation P.O. = Personal (Intra/inter) Orientation; N/A = Not Applicable.

Table 1 shows that there were a large number of individual learning objectives in both Phase I and II. The average number of objectives per participant dropped from 14 (Phase I) to 8.6 (Phase II). There may be at least three explanations for this:

i) the objectives for Phase I were largely generated by the competency rating form provided by the resource people before the workshop. This form provided an overwhelming amount of information to be handled effectively in the program -- an idea that was supported through interviews with the resource people.

ii) while the form asked for five to ten priorities the range shown in Table 1 suggests that in fact some individuals far exceeded the maximum in both phases

iii) The development of objectives for Phase II occurred at the end of Phase I and it would seem that the experience of that Phase assisted individuals in focusing more clearly on objectives to be worked on in Phase II.

While the number of objectives decreased, examination of the data shows that the vast majority (69.8%) of the individuals' learning objectives were not stated in measurable terms. These findings suggest that participants' objectives did little more than provide a general orientation. In this regard, Table 1 also shows that the bulk of individual learning objectives (85.5%) received an RO rating suggesting that individuals were largely aiming at improving or gaining trainer competencies. Percentage wise, there was a 10% increase in Personal Growth orientation during Phase II which reflects upon some participants' reorientation and the manner in which they intended to express their learnings from Phase I.

Table 1 shows individual learners identified 114 significant learning events, with an increase of one learning event per learner from Phase I to Phase II. It is difficult to know whether this is an indication of more learning in Phase II or rather the fact that the instrument was completed towards the end of Phase II.

Most significant learning events were SMU's giving some reliability to the identification of significant learning events in terms of a short period of time (half a day or less). Also, about half (52%) of the SLEA's were in the first person indicating that learners were relating a majority of their significant learning events in terms of events where they played a major role as a trainer or program planner.

TABLE #5A : Comparison of S(L)EAs and actual Program Events, for Phases I & II.

Phase I		Phase II	
Actual Program Events (figures in () are hours	Learner S(L)EAs	Actual Program Events	learner S(L)EA
Introductions/ Orientation (1)	1	Developing a learning contract/planning	-
Designing & Implementing learning climate exercises. (2)	1	Implementation of the contract.	-
Learning Wheel Learning Style Inventory. (3)	- 1	Work related - (uncontracted)events:	28 (66.7%)
Communication/feedback/input execise (3)	3	Not work related - (uncontracted)events	4 (9.5%)
Planning (4)	4 (9.5%)	Reflection/Evaluation	4 (9.5%)
Input(Lecture/Discus'n) on Design (2)	2	Consultation by Trainers	4 (9.5%)
Design & Implementat'n of a training session (9)	10 (23.8%)	Mail-out Resource materials	1
Planning (1.5)	1	March 20th - Planning meeting	1
Learning theory/ problem solving inputs (3)	1	-	-
Dealing with group/or "back home"problems (1)	2	-	-
Dealing with interpersonal problems (3.5)	-	-	-
Phase II Planning (3)	3	-	-
Global(S(L)EAs which dont relate to specific circumstances.	13 (31%)	-	-
TOTAL (matching S(L)EAs	42 (93.3%)	TOTAL (matching S(L)EAs)	40 (70%)
Other S(L)EAs(that is unrelated to program)	3 (6.7%)	Other S(L)EAs (not relating to program)	18 (30%)
TOTAL HOURS (36) TOTAL S(L)EAs	45	TOTAL S(L)EAs	60